

## Report on Research Project under the IDEA League Student Grant

Personal Information			
Full Name		Bittlingmayer, Tineke Yvonne	
Field of study		Environmental Engineering	
Degree pursued		Current year of studies	6
Home university		ETH Zurich	
Sponsoring professor at home university	Name	Eberhard Morgenroth	
	Email	Eberhard.Morgenroth@eawag.ch	

Information about the research stay			
Host university		Chalmers tekniska högskola (Chalmers University of Technology) - Göteborg	
Research topic		Process Performance of the Anaerobic Digestion of Sewage Sludge for Increasing Operation Temperatures	
Dates of research stay		From	03.04.2017 To 06.08.2017
Sponsoring professor at host university	Name	Britt-Marie Wilén	
	Email	Britt-Marie.Wilen@chalmers.se	

Summary of research project (200 words max.)	
<p>The aim of my Master thesis was to evaluate the potential and challenges of a thermophilic anaerobic digestion of wastewater treatment sludge from the Rya treatment plant in Göteborg, Sweden. Therefore 6 pilot scale reactors were operated and in 3 the temperature was increased from 35°C to 55°C. The performance during the transition was evaluated using parameters like volatile fatty acids, methane content in the biogas, the amount of biogas produced and the dewaterability of the digested sludge. Different strategies for converting the temperature of the reactors were evaluated. Additionally, the reaction of the reactors to changes in loading was tested.</p>	

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## Experience Report

*(Please tell us about your personal experience at the host university and give us an evaluation of the benefits of the research stay for the course of your studies)*

The contact with my host university was established by the supervising professor at ETH. The practical work was mainly conducted at the wastewater treatment plant where I had my own room to set up the equipment for the laboratory work. Since the topic of the thesis was only roughly defined when I arrived I had the opportunity to set the focus and design the experiments myself. Supervision was provided at Chalmers and at the treatment plant. Both supervisors were very motivated and supportive and helped me as discussion partners to sort my thoughts. To solve practical issues, I could rely on the assistance of the laboratory staff at Chalmers and the treatment plant. I can therefore conclude that I could benefit from a great supportive network which allowed me to develop my ideas.

Writing my thesis at Chalmers gave me the possibility to learn a lot about the different ways in which sewage sludge is used and treated in Sweden compared to Switzerland. I hope that this knowledge will help me to find good and maybe innovative solutions if I encounter this topic in my professional life. My stay also helped me to reflect the influence of the cultural background on the way problems are approached. It was also interesting to see how the flatter hierarchies in Sweden affect the way in which personal interaction takes place.

Overall, the IDEA League grant was a great opportunity to broaden my professional and cultural horizon without much administrative burden.

## Picture

*(Please provide a picture of you at the host university)*



The report should be signed by both professors involved. The signatures will be deleted when the template is published on the IDEA League webpage.

Student

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